UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/818,399	03/27/2001	Takayuki Iyama	450100-03044	2792

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EXAMINER
TUCKER, WESLEY J

ART UNIT	PAPER NUMBER
2624	

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07/19/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	09/818,399	IYAMA, TAKAYUKI
	Examiner	Art Unit
	Wes Tucker	2624

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>02 July 2007</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-3 and 5-10</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-3 and 5-10</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>27 March 2001</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☒ All   b)☐ Some *   c)☐ None of:

      1.☒ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1.   A request for continued examination under 37 CFR 1.114, including the

fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since

this application is eligible for continued examination under 37 CFR 1.114, and the fee

set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office

action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on

July 2nd 2007 has been entered.

Response to Amendment

2.   Applicant's amendment filed May 25th 2007 has been entered and made

of record.

3.   Applicant has amended claims 1 and 7. Applicant has cancelled claim 4.

Claims 1-3 and 5-10 are now pending.

4.   Applicant's remarks in view of the newly presented amendments have

been considered but are not persuasive fro at least the following reasons:

Applicant has amended the independent claims 1 and 7 to recite the following

additional features:

"Wherein the picture element components A and the picture element

components B comprises a luminance component Y and one of two color

difference compoents, and

<u>Wherein the one of the two color difference components is selected as a function of a sampling frequency"</u>

The reference to Kurtze discloses these limitations as can best be interpreted. Kurtze discloses wherein the picture element components A and the the picture element components B comprise a luminance component Y and one of two color difference components (column 3, lines 25-57 and column 4, lines 3-27). Kutze discloses that the A and B representation of the image stream are determined by a YUV representation. Kurtze further discloses that the YUV representation is determined by the lumincnace component Y and one of either U or V (column 4, lines 20-26). The U and V values are used in determining color difference values by determing the difference between the U and V values and the key point defined as Kc. These color difference values are then used to determine the representation of he values. Kurtze further discloses that the one of the two color difference values is selected as a function of a sampling frequency (column 3, lines 25-40). Here it is disclosed that the format for the color channels of a YUV representation is typically 4:2:2, meaning that the sampling frequency for the luminance channel is twice the other U,V chrominance channels. As best interpreted this is what Applicant is defining with this last limitation. Figure 2 of Applicant's specification details that this is the exact same representation used as Kurtze, having each pixel represented bya luminance value and every other pixel represented by either a U or V (Cr or Cb) value. The rejection in view Kurtze is therefore maintained.

Claim Rejections - 35 USC § 112

5.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6.   Claim 2 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 2 is rejected because the phrase "recorded at said specified value" is unclear as currently recited. Specifcally, it is unclear what "said specified value" the claim is referring to. Claim 1 recites that the "specified value" can take on 2 forms, and so it is unclear whether the "specified value" from claim 2 is supposed to be 0 or is supposed to be a value proportional to the pixel.

Claim Rejections - 35 USC § 102/103

7.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102/103 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8.   Claims 1-5, 7-9 is rejected under 35 U.S.C. 102(b) as being anticipated by

Kurtze et al. (USPN 5,644,364), or in the alternative, is rejected under 35 USC 103(a)

as being obvious in view of Kurtze.

Regarding claim 7:

Kurtze discloses a method for synthesizing two images comprising the following

steps.

setting a blending coefficient alpha to a specified value for each of a

plurality of specific pixels of a first image [Kurtze col. 3 lines 41-49].

wherein the specified value is proportional to a value of a specific pixel

component of the plurality of specific pixels of the first image included in pixel

components A of a first image when said value of the specific pixel is not zero

[Kurtze col. 4 lines 3-27: In the situation where $\|Kc-U\|$ is between D1 and D2,

we know that the value of the specific pixel is not zero. In this situation, the

"value of [alpha] is determined according to this value." Thus, we know that the

alpha value is proportional to the value of U.]

wherein said specified value is set to zero when said value of the specified

pixel element is zero [Kurtze col. 4 lines 3-13: The reference describes setting

parameters a key point Kc. If Kc is set to be a maximum value of 255, then the

value of $\|Kc-U\|$ will always be greater than D2 when the pixel value is zero.

When $\|Kc-U\|$ is greater than D2, then alpha is set to the minimum possible value

of zero].

performing an operation on each of the pixel components A of the first

image, and each of a plurality of pixel components B of a second image in

accordance with the specified value of the blending coefficients alpha (which has

a value between 0 and 1) as follows: (A*alpha + B*(1 – alpha)) [Kurtze col. 3

lines 41-58]

Applicant has amended the independent claims 1 and 7 to recite the following

additional features:

"Wherein the picture element components A and the picture element

components B comprises a luminance component Y and one of two color

difference compoents, and

Wherein the one of the two color difference components is selected as a

function of a sampling frequency"

The reference to Kurtze discloses these limitations as can best be interpreted.

Kurtze discloses wherein the picture element components A and the the picture element

components B comprise a luminance component Y and one of two color difference

components (column 3, lines 25-57 and column 4, lines 3-27). Kutze discloses that the

A and B representation of the image stream are determined by a YUV representation.

Kurtze further discloses that the YUV representation is determined by the lumincnace

component Y and one of either U or V (column 4, lines 20-26). The U and V values are

used in determining color difference values by determing the difference between the U

and V values and the key point defined as Kc. These color difference values are then

used to determine the representation of he values. Kurtze further discloses that the one

of the two color difference values is selected as a function of a sampling frequency

(column 3, lines 25-40). Here it is disclosed that the format for the color channels of a

YUV representation is typically 4:2:2, meaning that the sampling frequency for the

luminance channel is twice the other U,V chrominance channels. As best interpreted

this is what Applicant is defining with this last limitation. Figure 2 of Applicant's

specification details that this is the exact same representation used as Kurtze, having

each pixel represented bya luminance value and every other pixel represented by either

a U or V (Cr or Cb) value. The rejection in view Kurtze is therefore maintained.

Regarding claim 1:

Kurtze also discloses an apparatus for performing this method (see Kurtze Fig.

2). Further regarding claim 1, Kurtze discloses performing said operation on all the

pixel element components A and the pixel components B of a pixel that has the specific

pixel component representing the predetermined value by using said blending

coefficient alpha set by said coefficient setting means [Kurtze col. 3 lines 41-58]

Regarding Dependent Claims:

Regarding claim 2, the 112(2) problems associated with this claim are noted

above. Kurtze discloses that the transition is defined by upper and lower limits. Kurtze

discloses that the alpha value assumes a value when a value is outside the specified

range (Kurtze col. 4 lines 53-55)

Regarding claim 3, Kurtze discloses a luminance component Y.

Regarding claim 5, The limitations of this claim have already been addressed

with respect to claim 1. Indeed, it does not appear that claim 5 does much—if any—to

further limit claim 1.

Regarding claim 8, Kurtze discloses that the pixel component is a color

component.

Regarding claim 9, Kurtze discloses that the relationship is set by a user (Kurtze

col. 4 line 5).

9.   Claims 6, 9, and 10 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Kurtze in view of well known prior art.

Regarding claim 6, Kurtze discloses the YUV format, but it would have been

obvious to use the ITU-R601 format instead. The ITU-R601 format is well known in the

field (official notice) and it would have been obvious to use the claimed invention in such

a manner. Such a modification would have allowed for the use of the claimed image

synthesizing apparatus in an additional image format—thereby making the apparatus

more robust.

Regarding claim 9, Kurtze discloses that the user selects the relationship

between the pixel components and the specified value. However, it would have been

obvious to have this relationship pre-set. Such a modification would have allowed for an additional embodiment in which a user's input was not required during the operation of the apparatus.

Regarding claim 10, this claim is overlapping in scope with claim 9 because a user selection can be preset. Thus, the above analysis from claim 9 is incorporated herein.
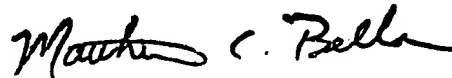
Contact Information

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Wes Tucker whose telephone number is 571-272-7427. The examiner can normally be reached on 9AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matt Bella can be reached on 571-272-7778. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Wes Tucker

7-12-07

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